

On this page there is a replacement version of Par. 0011 of the specification. Please note that the changes are now marked relative to the original text of Par. 11:

[0011]. Further in accordance with my invention the vibratory action imparted to the screed blade and the vibratory action imparted to the perforated roller are preferably driven from the same source of energy, to achieve efficiency. In the present embodiment both are driven from vehicle 10 through boom 16. The concrete laser screed's vibrator frame is the preferred location to attach our accessory. It is located on the front part of the laser screed head. When the laser screed is in operation, the vibration from its system passes through the aluminum tubing to the enclosure and channel rail causing our attached accessory to vibrate. It is not essential, however, that the drum or roller be driven with exactly the same amount of vibratory force as the screed blade, or that the vibratory motion follow precisely the same pattern of vibration. But the drum must be driven with at least a portion of the same vibratory energy imparted to the blade.

REMARKS

This application claims priority from Applicant's provisional application SN 60/218119 filed 13 July 2003. That description described very clearly how Applicant has attached his accessory to a standard screed machine thus "...causing our attached accessory to vibrate." For the convenient reference of the Examiner there is enclosed a copy of the three pages of description from that Provisional Application. See in particular the last full paragraph on the second page of the Provisional description.

In the Examiner's Final Action report the first amended version of Paragraph 11 was objected to on the ground that it contained a reference to the Somero et al patent No. 4,655,633 issued April 1987. In the further revised version of Par. 11, which is now submitted to be substituted for the original version, that reference has been deleted. In its place a three-sentence paragraph has been copied verbatim from the second page of the provisional application. It is believed that this change cures the Examiner's new matter objection.

Please also note that in the replacement version of Paragraph 0011 which is now submitted the changes are marked relative to the original text of Par. 11, which may not be precisely as directed by Rule 1.121(b)(iii), but appears to be most appropriate.

A revised Abstract is now submitted which is believed to overcome the Examiner's objections.

The Examiner's rejection of the claims as unpatentable over Erickson 2,915,839 is noted and is respectfully traversed. The Applicant's relatively inexpensive attachment has significantly improved the result that can be obtained with the tremendously more

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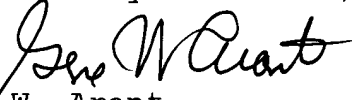
expensive Somero screed machine. Please see Applicant's Declaration regarding commercial success which is already on file in this application.

Applicant's claims are believed to define a significantly ^{different} apparatus as well as a significantly different method, that would not be obvious from the Erickson patent.

Favorable action is solicited.

July 1, 2004

Respectfully submitted,


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Enclosure, three pages from Applicant's
Provisional Application SN 60/218119

SPECIFICATION FOR A CONCRETE LASER SCREED
VIBRATING MESHED ROLLER TAMP AND VIBRATING CHANNEL
RAIL FLOAT

The subject of this provisional patent application is to add a customized, vibrating, meshed roller tamp and vibrating channel rail float accessory to the vibratory frame of a concrete laser screed. The customized mesh roller tamp and vibrating channel rail float are an assembly made up of an assortment of parts; namely, 1 enclosure, 2 body parts-meshed roller tamp and channel rail float, channeled stock arms, free-floating brackets, El-tee male, tee and elbow fittings, tubing, and mount flanges, which in turn are mounted to a concrete laser screed's vibratory frame.

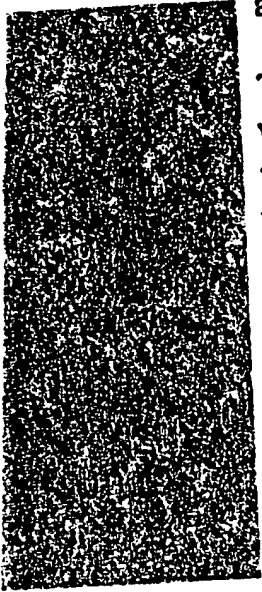
The enclosure/body part #1, a "Vibrating Meshed Roller Tamp", is tube shaped with both ends capped or sealed. It is preferably made out of a hard and rigid metal, like aluminum or steel. Steel mesh is a key material for its enclosure. When the meshed roller tamp is rotating and vibrating, the roughness and rigidity of the steel mesh along with the absorbed vibration from the screed head, pushes and settles the larger aggregates in the concrete down to the appropriate depth of the freshly placed concrete. This enables the desired cream of the concrete to come to the top of the surface. Within the enclosure are inner body parts. The inner body parts fill and prevent the enclosure from collapsing. It consists of one long, narrow, round bar, and sixteen, flat, circular, steel plates. The round bar runs the length of the enclosure. It is pushed through and welded to flat, circular steel plates. The sixteen, flat, circular, steel plates are threaded evenly through the round bar about 8" inches apart for inner support. Last, the enclosure and the inner body parts are sealed with one of the flat, circular, steel plate (caps) at each end, thus becoming body part #1.

Attached to in the center of each end of the cap ends of body part #1 are two channeled stock arm part (CSA#1 and CSA#2), and 1 free-floating bracket. These parts bolted together allow the enclosure/body part #1 to adjust freely up or down depending upon the level of the concrete surface. The parts are preferably made out of a metal, like aluminum or steel and cut in the shape of a thin rectangle. Its purpose is to connect the enclosure/body part#1 to the elbow and tee-fittings. Next, Roller bearings are attached to the bottom of channeled stock arm #1, which is in turn are attached to body part#1's end caps. It's purpose is to allow body part#1 to rotate in the same direction that the laser screed's head is moving.

Body part #2, the "Channel rail float", is a narrow, rectangular, aluminum, three-dimensional rail that is 12'3" X 4" wide X 1 1/2" deep. Stabilizer brackets, and leveling rod mounts are equally spaced and mounted to the channel rail float to hold the leveling rods. To adjust the

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straightness and levelness of **body part #2/channel rail float, 2, 4' x 3/8"** **leveling rods** are connected to each **leveling rod mount and stabilizer bracket**. Next, 2 **angle bars**, which are thin angular aluminum in shape, are welded on underside of **body part#2/channel rail float**, to provide and additional smoothing of the concrete surface. It function is like that of a of a double edged razor- if the first strike of the front angle bar doesn't produce the desired smoothness of the concrete surface, the second angle bar is sure to finish the job. Furthermore, **end caps**, made out of aluminum, were welded to the **channel rail float** to close its ends and provide a place to attach **channeled stock arm part #3** and **free-floating bracket#2**. **Adjustment bolts** were used to mount **channeled stock arm #3** to **body part#2/channel rail float**. In addition, the bolts allow the angle of **body part #2** to be manually adjusted by the laser operator to meet the desired smooth "Bull floated" finished effect. The completed **body part #2's** main function or purpose is to takes the place of the "Bull Float" (a manual concrete tool used by finishers to smooth the surface of the floor) and add additional vibration by mechanically, vibrating and smoothing the concrete floor. The end result is a reduction in labor costs and an improvement in the appearance of the floor.



To connect both **body parts #1 and #2** together to the laser screed's vibratory frame a well thought of configuration of **El-Tee male, elbow, tee fittings and tubing** are used to hold and connect **channeled stock arms #1, 2, and 3** to the **flange mount** which is bolted to the laser screed's vibratory frame. These parts are preferably made out of a hard metal, like aluminum or steel for durability and vibration ability.

Hollow, aluminum tubing is sleeved through the **El-Tee male, Tee and Elbow fittings** and through the **mount flanges**, which in turn is mounted to laser screed's the **vibrator screed frame**. The aluminum tubing has two main purposes: to join the enclosure/body part #1 and body part #2 together, and to allows the vibration from the concrete laser screed's vibrator frame to flow through it's **tubes and elbows, and tee-fittings**, down to the enclosure and **body parts #1 and #2** to the screed head.

→ The concrete laser screed's vibrator frame, is the preferred location to attach our accessory. It is located on the front part of the laser screed head. When the laser screed is in operation, the vibration from its system passes through the aluminum tubing to the enclosure and channel rail causing our attached accessory to vibrate.

In conclusion, all parts together add up to a unique and revolutionary idea, in the improvement of the industries concrete placement and finishing procedures. The first step is to mobilize our accessory, a customized, vibrating mesh roller tamp and channel rail float. To achieve mobility it is

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mounted to the laser screed's vibratory frame, which is attached to the screed's head. Next, when the laser screed, along with our accessory, is in operation it will extend its boom and drop its head to the ungraded concrete surface. Furthermore, as the boom is retracted and the concrete laser screed head is leveling the concrete to grade, the mounted, customized, vibrating mesh roller tamp and channel rail float, follows its lead, traveling along the concrete's now graded surface. As this is happening, the transferred vibration to the meshed roller tamp settles the concrete aggregates down and produces the desired sand cement creams to the surface of the concrete. Next, the channel rail floating device (body part#2) travels behind the meshed roller tamp (enclosure/body part #1) vibrating and smoothing the concrete's graded surface efficiently and effectively preparing the concrete floor for the next finishing procedure. After the concrete laser screed boom has been retracted and the head is being raised, the customized, vibrating mesh roller tamp and channel rail float slides slightly downward to rest at the bottom end of the channeled stock arm part and bracket. When not in use the customized vibrating mesh roller tamp and channel rail float can be easily removed by counter screwing the Allen set screws at the mount flanges. Allen screws are also used to secure the unit throughout. Another important factor to mention is that the Vibrating Meshed Roller Tamp may be used alone. The operator can simply remove the Channel Rail float by pulling it off tube # 5 and removing elbow #3, and tube #4. In addition, the Channel Rail Float accessory is interchangeable. It can be replaced with another customized tool, like an aluminum roller tube or straight edged tamp.

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